Sociopolitical and psychological correlates of COVID-19 vaccine hesitancy in the United States during summer 2021

Supplemental Materials

Appendix A: Survey questions and item construction

Vaccine status (binary measure)

Have you personally received at least one dose of a COVID-19 vaccine?

- Yes

- No

Vaccine hesitancy (5 category measure with reference category of *Vaccine status* = Yes)

[For unvaccinated respondents]: Which of the following best describes how you feel about the COVID-19 vaccine?

- I plan to get the vaccine as soon as possible

- I am open to it, but will keep waiting and see what happens

- I will only get the vaccine if required by my job or places I need to go

- I definitely will not get the vaccine

Sex (binary measure)

I am:

- Male

- Female

Age (in years)

What year were you born?

Education (6-category ordinal measure)

What is the highest level of education you have completed?

- Less than high school

- High school graduate or GED

- Some college, but no degree (yet)

- 2-year college degree

- 4-year college degree

- Post-graduate degree (MA, MBA, MD, JD, PhD, etc.)

Income (7-category ordinal measure)

What is your annual household income?

- $24,999 or less

- $25,000 to $49,999

- $50,000 to $74,999

- $75,000 to $99,999

- $100,000 to $149,999

- $150,000 to $199,999

- $200,000 or more

Perceived social status (MacArthur Scale of Subjective Social Status)

Think of this [clickable image of a 10-rung] ladder as representing where people stand in their

communities. People define community in different ways; please define it in whatever way is most

meaningful to you. At the top of the ladder are the people who have the highest standing in their

community. At the bottom are the people who have the lowest standing in their community. Where would

you place yourself on this ladder? Please click on the rung where you think you stand at this time in your life, relative to other people in your community.

Religiosity (factor score of the five items below)

How important is religion in your life? (Likert scale measure scored 1-4)

- Not at all important
- Not too important
- Somewhat important
- Very important

People who are right with God are unlikely to be injured by the coronavirus: (Likert scale measure scored 1-5)

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Prayer can protect me from the coronavirus: (Likert scale measure scored 1-5)

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Aside from weddings and funerals, how often do you attend religious services? (Likert scale measure scored 1-6)

- More than once a week

- Once a week

- Once or twice a month

- A few times a year

- Seldom

- Never

People practice their religion in different ways. Outside of attending religious services, how often do you pray? (Likert scale measure scored 1-7)

- Never

- Seldom

- A few times a month

- Once a week

- A few times a week

- Once a day

- Several times a day

- Don't know

Religious affiliation

What is your present religion, if any?

- Protestant

- Roman Catholic

- Mormon

- Eastern or Greek Orthodox

- Jewish

- Muslim

- Buddhist

- Hindu

- Atheist

- Agnostic

- Nothing in particular

- Something else

Evangelical/born again

Would you describe yourself as a "born-again" or evangelical Christian, or not?

- Yes

- No

Race/ethnicity

I am: (please check all that apply)

- White

- Black or African-American

- Asian-American or Pacific Islander

- Native American or American Indian

- Other

Are you of Hispanic or Latino/a origin?

- Yes

- No

Had COVID (aggregated to binary yes/no)

Were you ever ill from COVID-19 during the pandemic?

- No

- Yes, but I had no symptoms or it was a mild case

- Yes, I had a moderate case

- Yes, I had severe symptoms and/or required hospitalization

Worked outside home (binary yes/no)

Were you working outside the home during the COVID-19 lockdown?

- Yes

- No

- Not applicable; I am not employed for pay

Lost income (aggregated to binary yes/no to reflect any impact)

How has the Coronavirus pandemic changed your employment status? Please check all that apply.

- No change

- Laid off

- Working from home

- Hours cut

- Loss of business/clients

- Furloughed

- Salary/wage cut

COVID vaccine misinformation (sum score, range 1-5)

Please tell us how much you agree or disagree with each of the statements below:

- The COVID-19 vaccine causes infertility.

- The COVID-19 vaccine can give you COVID-19.

- People receiving the COVID-19 vaccine will "shed" dangerous chemicals from that vaccine.

- The COVID-19 vaccine is a scam by the pharmaceutical companies to make money.

- The COVID-19 vaccine will alter your DNA

The response options were: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.

The order in which the statements were presented was randomized.

COVID conspiracy beliefs (sum score, range 1-5)

Please tell us how much you agree or disagree with each of the statements below:

- The threat of coronavirus has been exaggerated by political groups who want to damage President Trump.

- Coronavirus was purposely created and released as part of a conspiracy.

- The number of deaths related to the coronavirus has been exaggerated.

- The coronavirus is being used to force a dangerous and unnecessary vaccine on Americans.

- 5G cell phone technology is responsible for the spread of the coronavirus.

- Bill Gates is behind the coronavirus pandemic.

- The coronavirus is being used to install tracking devices inside our bodies.

The response options were: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.

The order in which the statements were presented was randomized.

Social media use (Likert scale coded 0-4)

Thinking about the news and social media you use, how often do you typically use:

- Facebook

- Twitter

- Instagram

- YouTube

The response options were: not at all, once a month or less, several times a month, several times a week, every day. The order in which these social media outlets were presented was randomized.

Science literacy (sum score, range 0-11)

To the best of your knowledge, are the following statements true or false?

- The continents on which we live have been moving their location for millions of years and will continue to move in the future.

- All radioactivity is manmade.

- The center of the Earth is very hot.

- The oxygen we breathe comes from plants.

- Lasers work by focusing sound waves.

- Electrons are smaller than atoms.

- Antibiotics kill viruses as well as bacteria.

- The earliest humans lived at the same time as the dinosaurs.

- Human beings, as we know them today, developed from earlier species of animals.

- It is the father's gene that decides whether the baby is a boy or a girl.

- Radioactive milk can be made safe by boiling it.

The response options were: true or false. The order in which these statements were presented was randomized. The score is the number of correct responses (0-11).

Trust in scientists (Likert scale scored 1-7)

The name "Scientists" was included on a list of groups for respondents to rate in response to this question: "Please tell us how much you trust each of the groups of people below:" The response options were scored 1-7: distrust a lot, distrust, distrust somewhat, neither trust nor distrust, trust somewhat, trust, trust a lot.

Confidence in science (Likert scale scored 1-5)

I have confidence in the scientific community.

- Strongly disagree

- Disagree

- Neither agree nor disagree

- Agree

- Strongly agree

Partisanship (items combined into Likert scale, range 1-7, Republican to Democrat)

Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or something else?

[For self-identified Republicans]: Would you call yourself a strong Republican or a not very strong Republican?

[For self-identified Democrats]: Would you call yourself a strong Democrat or a not very strong Democrat?

[For all other respondents]: Do you think of yourself as closer to the Republican or Democratic Party?

Ideology (Likert scale, range 1-7, very conservative to very liberal)

Where would you place yourself on a [7-point] scale that goes from "very liberal" to "very conservative"?

Anti-establishment (sum score, range 1-5)

Please tell us how much you agree or disagree with each of the statements below:

- Elected officials talk too much and take too little action.

- What people call "compromise" in politics is really just selling out on one's principles.

- Established politicians who claim to defend our interests only take care of themselves.

- The established elite and politicians have often betrayed the people.

- Politics is a battle between good and evil.

- Even though we live in a democracy, a few people will always run things anyway.

- The people who really "run" the country, are not known to the voters.

- Big events like wars, the recent recession, and the outcomes of elections are controlled by small groups of people who are working in secret against the rest of us.

- Much of our lives are being controlled by plots hatched in secret places.

The response options were: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree. The order in which the statements were presented was randomized.

Trump approval (Feeling thermometer, range 1-100)

The name "Donald Trump" was included on a list of public figures for respondents to rate in response to this question: "Next, we would like to know your feelings about public figures. Please rate the names below using the "feeling thermometer" slider bars. Ratings between 50 and 100 degrees mean that you feel favorable toward the name. Ratings between 0 and 50 degrees mean that you do not feel favorable toward the name. If you come to a name you don't recognize, you don't need to rate it. Just move on to the next one."

Interest in politics (Likert scale, range 1-5, low to high interest)

Some people follow what's going on in politics and current events most of the time. Others aren't that interested. How often do you follow what's going on in government and current events?

- Never

- Hardly at all

- Only now and then

- Some of the time

- Most of the time

Machiavellianism (sum score, range 1-5)

Please tell us how much you agree or disagree with each of the statements below:

- I tend to manipulate others to get my way.

- I have used deceit or lied to get my way.

- I have used flattery to get my way.

- I tend to exploit others towards my own end.

The response options were: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.

The order in which the statements were presented was randomized.

Narcissism (sum score, range 1-5)

Please tell us how much you agree or disagree with each of the statements below:

- I tend to want others to admire me.

- I tend to want others to pay attention to me.

- I tend to seek prestige or status.

- I tend to expect special favors from others.

The response options were: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.

The order in which the statements were presented was randomized.

Psychopathy (sum score, range 1-5)

Please tell us how much you agree or disagree with each of the statements below:

- I tend to lack remorse.

- I tend to be unconcerned with the morality of my actions.

- I tend to be callous or insensitive.

- I tend to be cynical.

The response options were: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.

The order in which the statements were presented was randomized.

Perceived victimhood (sum score, range 1-5)

Please tell us how much you agree or disagree with each of the statements below:

- I rarely get what I deserve in life.

- Great things never come to me.

- I usually have to settle for less.

- I never seem to get an extra break.

The response options were: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.

The order in which the statements were presented was randomized.

Stress (sum score of 4 items from the Perceived Stress Scale, PSS-4)

In the past month, how often have you:

- Felt that you were unable to control the important things in your life?

- Felt confident about your ability to handle your personal problems?

- Felt that things were going your way?

- Felt difficulties were piling up so high that you could not overcome them?

The response options were: very often, fairly often, sometimes, almost never, never. The presentation order of the statements was randomized.

Empathy (sum score of Empathy Quotient [EQ-8] items)

Please tell us how much you agree or disagree with the statements below:

- I find it easy to put myself in somebody else's shoes.

- I am good at predicting how someone will feel.

- I am quick to spot when someone in a group is feeling awkward or uncomfortable.

- Other people tell me I am good at understanding how they are feeling and what they are thinking.

- I find it hard to know what to do in a social situation.

- I often find it hard to judge if something is rude or polite.

- It is hard for me to see why some things upset people so much.

- Other people often say that I am insensitive, though I don't always see why.

For each statement the response options were: strongly agree, slightly agree, slightly disagree, strongly disagree. The presentation order of the statements was randomized.

Compassion (sum score of Santa Clara Brief Compassion Scale items)

Please tell us how well the following statements describe you:

- When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her.

- I tend to feel compassion for people, even though I do not know them.

- One of the activities that provide me with the most meaning to my life is helping others in the world when they need help.

- I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help me.

- I often have tender feelings toward people (strangers) when they seem to be in need.

For each statement respondents rated themselves on a scale of 1-to-7, where 1 means "not at all true of me" and 7 means "very true of me". The presentation order of the statements was randomized.

Conflict tactic (sum score, range 0-9)

During the past 12 months, have you done the following things when having a disagreement with another person?

- Discussed it calmly and settled the disagreement?

- Left the room or area rather than argue?

- Insulted, swore, or cursed at someone?

- Threatened to hit or throw something at another person?

- Actually threw something at someone?

- Pushed, grabbed, or shoved someone?

- Slapped another person?

- Kicked, bit, or hit someone?

- Hit or tried to hit anyone with an object?

- Beat up someone?

- Threatened anyone with knife or gun?

- Actually used a knife or gun on someone?

The response options were yes or no for each statement. The order in which the statements were presented was not randomized.

Perceived physical strength (Likert scale, range 0-10, low to high)

Please compare yourself to other people from your gender. How physically strong are you compared to other people from your gender?

- I am stronger than 0% of other men/women

- I am stronger than 10% of other men/women

- I am stronger than 20% of other men/women

- I am stronger than 30% of other men/women

- I am stronger than 40% of other men/women

- I am stronger than 50% of other men/women

- I am stronger than 60% of other men/women

- I am stronger than 70% of other men/women

- I am stronger than 80% of other men/women

- I am stronger than 90% of other men/women

- I am stronger than 100% of other men/women

Appendix B: Supplementary Tables

Table S1. Demographic comparison of study sample to data from the 2019 American Community Survey.

Characteristic	This Study (2021)	2019 U.S. Census
Sex		
Male	48.2	49.2%
Female	51.9	50.8
Age		
Median (in years)	46.0	38.1
Income		
$24,999 or less	21.4	19.2%
$25,000—$49,999	19.4	21.2
$50,000—$74,999	18.7	17.2
$75,000—$99,999	11.8	12.7
$100,000—149,999	17.7	15.1
$150,000—$199,999	6.0	6.8
$200,000 or more	5.0	7.7
Education		
Less than high school	2.4	12.0%
High school graduate or GED	24.9	27.0
Some college, but no degree	26.5	20.4
2-year college degree	15.1	8.5
4-year college degree	19.0	19.8
Post-graduate degree	12.1	12.4
Race		
White	70.4	75.3%
Black	15.0	14.0
Hispanic/Latino	18.2	18.0
Asian	7.4	6.6
Native American	2.9	1.7
Other race	4.2	5.5

Note: Census figures are from the 2019 American Community Survey (ACS) 5-year estimated data profile. Racial categories do not sum to 100% due to multiracial identification.

Table S2. Measurement scales and frequency characteristics of all items included in the six blocks of individual characteristics.

	n	Mean (SD) or %
Vaccine Hesitancy		
Had not received at least one dose of a COVID-19 vaccine	2,055	31.6%
Vaccine Hesitancy Type	2.054	
Received at least one dose (not hesitant)		68.4%
Planned to get the vaccine as soon as possible		3.8%
Open to it, but will keep waiting and see what happens		7.7%
Only if required by my job or places I need to go		3.9%
Definitely will not get the vaccine		16.1%
Demographics		
Female gender	2,055	51.8%
Age (years)	2,055	47.9 (17.6)
Education	2,055	
Less than high school		2.4%
High school graduate or GED		24.9%
Some college but no degree (yet)		26.5%
2-year college degree		15.1%
4-year college degree		19.0%
Post-graduate degree		12.1%
Income (USD)	2,055	
< 25K		21.4%
25-50K		19.4%
50-75K		18.7%
75-100K		11.8%
100-150K		17.7%
150-200K		6.0%
> 200K		5.0%
Perceived social status (1-10, low to high)	2.047	5.73 (2.20)
Religiosity (mean score)	2,046	2.79 (1.19)
Religious affiliation (ref = Atheist, Agnostic, or nothing in particular)		25.2%
Protestant		24.7%
Catholic		21.6%
Other Christian		1.5%
Jewish, Muslim, Buddhist, Hindu		9.1%
Other		17.9%
Evangelical/born again	2,054	13.0%
Race/Ethnicity	2,055	
White		70.0%
Black		15.5%
Asian		7.4%
Native American		3.1%
other		4.1%
Hispanic or Latino		18.3%
COVID-19 Experiences		
Had COVID-19	2,055	
No		83.0%
Yes, but no symptoms or mild case		8.8%
Yes, moderate case		6.5%
Yes, severe symptoms and/or required hospitalization		1.7%
Worked outside home	2,055	35.4%
Lost income	2,055	45.3%
Information		
COVID-19 vaccine misinformation (mean score, range 1-5)	2,046	2.16 (1.06)
COVID-19 conspiracy beliefs (mean score, range 1-5)	2,046	2.20 (1.04)
Social media use (mean score, range 1-5, low to high)	2,047	2.09 (1.17)
Views on Science		
Science literacy (0-11, low to high)	2,040	7.65 (2.00)
Trust in scientists (1-7, low to high)	2,045	5.24 (1.23)

Confidence in science (1-5, low to high)	2,047	3.88 (1.01)
Political Orientations		
Partisanship (Democrat to Republican)	2,055	
Strong Democrat		28.2%
Not very strong Democrat		13.5%
Independent		25.2%
Not very strong Republican		10.6%
Strong Republican		17.7%
Something else		4.9%
Ideology (1-7, very liberal to very conservative	2,047	3.89 (1.75)
Anti-establishment (mean score, range 1-5)	2,046	3.34 (0.78)
Trump approval (0-100 feeling thermometer)	2,018	38.14 (37.66)
Interest in politics (1-5, low to high)	2,046	3.98 (1.06)
Psychological Predispositions		
Machiavellianism (mean score, range 1-5)	2,045	2.17 (0.99)
Narcissism (mean score, range 1-5)	2,044	2.52 (1.00)
Psychopathy (mean score, range 1-5)	2,046	2.15 (0.89)
Perceived victimhood (mean score, range 1-5)	2,046	2.78 (0.97)
Perceived stress (mean score, range 0-4)	2,046	1.59 (0.83)
Empathy (mean score, range 1-4)	2,045	1.91 (0.47)
Compassion (mean score, range 1-7)	2,045	5.18 (1.21)
Conflict tactic (0-9, less to more severe)	2,042	0.98 (1.73)
Perceived physical strength (0-10, low to high)	2,044	4.28 (2.62)

Table S3. Multinomial logistic regression analysis of COVID-19 vaccine hesitancy category (reference category = vaccinated) with relative risk ratio, 95% confidence interval (CI), and *P*-value. Partial models include only items within the same item category, the full model includes all items from all categories, and the post-hoc model excludes the items *COVID-19 vaccine misinformation* and *COVID-19 conspiracy beliefs*.

Characteristic	Partial Model				Full Model				Post Hoc Full Model			
	Plans to ASAP	Wait and See	Only if Required	Definitely Not	Plans to ASAP	Wait and See	Only if Required	Definitely Not	Plans to ASAP	Wait and See	Only if Required	Definitely Not
Demographics												
Female gender	0.97, 0.58-1.63, 0.910	1.08, 0.74-1.58, 0.679	1.62, 0.95-2.77, 0.08	1.44, 1.07-1.94, 0.016	0.97, 0.56-1.69, 0.913	1.02, 0.66-1.56, 0.938	1.77, 0.98-3.22, 0.060	1.90, 1.25-2.87, 0.002	0.98, 0.56-1.70, 0.929	1.07, 0.70-1.62, 0.758	1.92, 1.08-3.44, 0.027	2.21, 1.51-3.25, < 0.001
Age	1.16, 1.04-1.30, 0.008	1.03, 0.96-1.09, 0.432	1.06, 0.97-1.17, 0.214	1.10, 1.04-1.16, 0.001	1.15, 1.02-1.29, 0.022	1.00, 0.93-1.07, 0.996	1.03, 0.93-1.14, 0.564	1.03, 0.96-1.11, 0.361	1.14, 1.01-1.28, 0.028	1.00, 0.93-1.07, 0.972	1.03, 0.93-1.14, 0.597	1.03, 0.97-1.10, 0.327
Age^2	0.998, 0.997-0.999, 0.001	0.999, 0.999-1.00, 0.078	0.999, -0.998-1.00, 0.038	0.999, 0.998-0.999, < 0.001	0.998, 0.997-0.999, 0.008	1.00, 0.99-1.00, 0.300	0.999, 0.998-1.00, 0.187	0.999, 0.999-1.00, 0.090	0.998, 0.997-0.999, 0.010	0.999, 0.999-1.000, 0.177	0.999, 0.999-1.00, 0.143	0.999, 0.999-1.00, 0.025
Education	0.99, 0.81-1.21, 0.950	0.79, 0.68-0.92, 0.002	0.99, 0.81-1.21, 0.932	0.84, 0.75-0.94, 0.003	1.01, 0.81-1.24, 0.96	0.82, 0.69-0.98, 0.025	1.14, 0.92-1.43, 0.233	0.94, 0.80-1.10, 0.445	1.00, 0.81-1.23, 0.985	0.81, 0.69-0.96, 0.013	1.12, 0.90-1.40, 0.293	0.94, 0.82-1.09, 0.416
Income	0.78, 0.65-0.93, 0.006	0.75, 0.66-0.86, < 0.001	0.89, 0.74-1.06, 0.184	0.76, 0.69-0.85, < 0.001	0.73, 0.60-0.89, 0.002	0.77, 0.67-0.90, 0.001	0.91, 0.75-1.11, 0.344	0.74, 0.65-0.86, < 0.001	0.73, 0.60-0.89, 0.002	0.78, 0.68-0.90, 0.001	0.91, 0.76-1.10, 0.346	0.75, 0.66-0.85, < 0.001
Perceived social status	1.00, 0.89-1.11, 0.942	0.97, 0.89-1.05, 0.423	0.94, 0.84-1.05, 0.301	0.95, 0.89-1.01, 0.123	0.98, 0.86-1.11, 0.753	1.01, 0.91-1.12, 0.866	0.93, 0.81-1.06, 0.291	0.94, 0.86-1.03, 0.205	0.99, 0.87-1.12, 0.824	1.03, 0.93-1.13, 0.604	0.96, 0.85-1.09, 0.534	0.98, 0.90-1.06, 0.59
Religiosity	1.22, 0.96-1.56, 0.111	1.06, 0.88-1.27, 0.541	1.17, 0.91-1.51, 0.221	1.26, 1.09-1.46, 0.001	0.96, 0.72-1.29, 0.795	0.89, 0.71-1.11, 0.296	0.83, 0.61-1.13, 0.231	0.78, 0.63-0.96, 0.020	1.02, 0.77-1.34, 0.904	1.08, 0.87-1.33, 0.488	1.03, 0.77-1.38, 0.852	1.03, 0.85-1.24, 0.776
Religious affiliation (ref = Atheist, Agnostic, or nothing in particular)												
Protestant	0.33, 0.09-1.19, 0.09	1.04, 0.53-2.04, 0.907	1.72, 0.70-4.26, 0.238	0.55, 0.32-0.94, 0.028	0.37, 0.10-1.36, 0.132	1.22, 0.58-2.59, 0.603	2.76, 1.03-7.36, 0.043	0.91, 0.45-1.82, 0.780	0.35, 0.10-1.30, 0.118	0.99, 0.48-2.05, 0.987	2.13, 0.82-5.50, 0.119	0.59, 0.31-1.12, 0.108
Catholic	0.62, 0.28-1.35, 0.228	1.04, 0.53-2.04, 0.907	0.72, 0.29-1.79, 0.481	0.30, 0.18-0.50, < 0.001	0.60, 0.26-1.41, 0.244	1.01, 0.55-1.86, 0.973	1.08, 0.34-2.75, 0.880	0.42, 0.22-0.79, 0.007	0.56, 0.24-1.31, 0.182	0.84, 0.47-1.52, 0.568	0.85, 0.34-2.13, 0.732	0.27, 0.15-0.50, < 0.001
Other Christian	1.20, 0.24-5.91, 0.822	1.11, 0.29-4.21, 0.877	0.00, 0.00-0.00, 0.982	0.13, 0.02-0.99, 0.049	1.57, 0.31-8.09, 0.588	1.37, 0.30-6.24, 0.688	0.00, 0.00-0.00, 0.978	0.17, 0.01-2.04, 0.163	1.42, 0.28-7.26, 0.671	0.99, 0.24-4.17, 0.991	0.00, 0.00-0.00, 0.986	0.11, 0.01-1.10, 0.060
Jewish, Muslim, Buddhist, Hindu	0.77, 0.30-1.97, 0.592	0.57, 0.24-1.34, 0.197	0.53, 0.14-2.04, 0.359	0.24, 0.11-0.51, < 0.001	0.93, 0.34-2.52, 0.885	0.86, 0.35-2.11, 0.735	0.83, 0.20-3.38, 0.791	0.48, 0.19-1.23, 0.125	0.89, 0.33-2.41, 0.813	0.76, 0.31-1.82, 0.532	0.77, 0.19-3.07, 0.706	0.40, 0.17-0.98, 0.046
Other	0.96, 0.45-2.06, 0.917	1.07, 0.61-1.9, 0.811	2.22, 1.02-4.81, 0.044	1.13, 0.75-1.71, 0.563	1.17, 0.51-2.69, 0.715	1.17, 0.62-2.21, 0.625	3.05, 1.31-7.07, 0.010	1.62, 0.93-2.81, 0.091	1.07, 0.47-2.44, 0.871	0.84, 0.46-1.56, 0.588	1.97, 0.87-4.42, 0.102	0.92, 0.56-1.52, 0.747
Evangelical/born again	1.81, 0.46-7.09, 0.394	0.97, 0.47-2.01, 0.933	1.11, 0.47-2.65, 0.808	1.35, 0.77-2.38, 0.300	1.94, 0.48-7.79, 0.352	0.76, 0.34-1.69, 0.504	0.77, 0.30-1.95, 0.580	0.82, 0.40-1.68, 0.587	1.88, 0.47-7.55, 0.372	0.75, 0.35-1.62, 0.464	0.75, 0.30-1.86, 0.532	0.86, 0.44-1.66, 0.647
Race/Ethnicity (ref = White)												
Black	0.94, 0.49-1.80, 0.849	0.84, 0.51-1.37, 0.486	0.88, 0.48-1.62, 0.683	0.71, 0.49-1.03, 0.071	0.87, 0.43-1.78, 0.705	0.76, 0.42-1.39, 0.373	1.06, 0.52-2.16, 0.870	1.14, 0.67-1.94, 0.631	0.87, 0.43-1.78, 0.711	0.96, 0.54-1.69, 0.874	1.32, 0.66-2.64, 0.436	1.56, 0.96-2.53, 0.070
Asian	0.51, 0.19-1.41, 0.195	0.49, 0.22-1.1, 0.084	0.19, 0.04-0.83, 0.028	0.18, 0.08-0.44, < 0.001	0.44, 0.15-1.27, 0.128	0.50, 0.21-1.19, 0.117	0.16, 0.04-0.76, 0.020	0.11, 0.03-0.37, < 0.001	0.45, 0.15-1.28, 0.133	0.56, 0.24-1.30, 0.174	0.17, 0.04-0.78, 0.022	0.16, 0.05-0.47, 0.001
Native American	0.85, 0.19-3.76, 0.826	1.64, 0.71-3.82, 0.249	0.36, 0.05-2.77, 0.327	0.95, 0.47-1.94, 0.897	0.40, 0.05-3.37, 0.398	2.08, 0.82-5.26, 0.123	0.39, 0.05-3.19, 0.380	1.33, 0.50-3.48, 0.568	0.38, 0.05-3.21, 0.375	1.97, 0.82-4.76, 0.131	0.40, 0.05-3.16, 0.386	1.50, 0.64-3.50, 0.349
other	0.93, 0.26-3.35, 0.907	0.98, 0.4-2.41, 0.972	1.20, 0.32-4.47, 0.791	1.03, 0.52-2.05, 0.933	0.89, 0.23-3.44, 0.868	0.71, 0.27-1.88, 0.491	0.91, 0.22-3.68, 0.889	0.65, 0.26-1.64, 0.358	0.95, 0.25-3.65, 0.939	0.85, 0.33-2.18, 0.738	1.20, 0.31-4.65, 0.797	0.79, 0.33-1.85, 0.581

Hispanic or Latino	0.69, 0.37-1.30, 0.254	0.65, 0.39-1.08, 0.093	0.29, 0.12-0.68, 0.005	0.53, 0.35-0.80, 0.003	0.74, 0.38-1.43, 0.371	0.81, 0.46-1.42, 0.460	0.32, 0.13-0.78, 0.012	0.77, 0.45-1.32, 0.346	0.74, 0.39-1.44, 0.379	0.82, 0.48-1.40, 0.464	0.32, 0.13-0.77, 0.011	0.77, 0.47-1.25, 0.285
Model fit (n = 2,045)	AIC = 3710; pseudo-R^2 = 0.13											
COVID-19 Experiences												
Had COVID-19	0.78, 0.40-1.51, 0.454	1.38, 0.9-2.11, 0.137	1.77, 1.04-2.98, 0.034	0.82, 0.58-1.16, 0.261	0.60, 0.29-1.23, 0.163	1.06, 0.65-1.73, 0.809	1.38, 0.76-2.51, 0.295	0.57, 0.35-0.93, 0.024	0.62, 0.3-1.27, 0.192	1.21, 0.76-1.94, 0.425	1.54, 0.87-2.74, 0.140	0.65, 0.42-1.02, 0.062
Worked outside home	1.64, 1.02-2.62, 0.040	0.85, 0.59-1.23, 0.39	1.48, 0.93-2.37, 0.101	1.22, 0.95-1.58, 0.122	1.20, 0.72-2.00, 0.485	0.65, 0.42-0.98, 0.041	1.27, 0.75-2.15, 0.373	0.95, 0.65-1.39, 0.798	1.24, 0.74-2.06, 0.415	0.74, 0.49-1.11, 0.148	1.43, 0.86-2.39, 0.171	1.13, 0.80-1.59, 0.496
Lost income	0.89, 0.52-1.52, 0.664	0.8, 0.53-1.19, 0.269	1.37, 0.84-2.25, 0.207	0.94, 0.7-1.24, 0.647	0.60, 0.34-1.07, 0.083	0.69, 0.43-1.10, 0.117	1.54, 0.88-2.71, 0.133	0.89, 0.59-1.34, 0.564	0.6, 0.34-1.07, 0.086	0.69, 0.44-1.08, 0.102	1.51, 0.87-2.61, 0.144	0.85, 0.58-1.25, 0.409
Model fit (n = 2,043)	AIC = 4093; pseudo-R^2 = 0.01											
Information												
COVID-19 vaccine misinformation	1.48, 1.04-2.09, 0.028	2.88, 2.23-3.72, < 0.001	3.10, 2.21-4.35, < 0.001	4.09, 3.29-5.09, < 0.001	1.35, 0.90-2.01, 0.148	3.67, 2.65-5.07, < 0.001	3.60, 2.37-5.45, < 0.001	5.68, 4.16-7.75, < 0.001	Excluded from model			
COVID-19 conspiracy beliefs	0.99, 0.71-1.38, 0.952	0.83, 0.64-1.07, 0.143	0.96, 0.69-1.34, 0.798	1.27, 1.04-1.56, 0.021	0.98, 0.66-1.46, 0.915	0.95, 0.68-1.32, 0.74	1.09, 0.72-1.66, 0.690	1.19, 0.88-1.60, 0.266	Excluded from model			
Social media use	1.74, 1.39-2.20, < 0.001	0.85, 0.72-0.99, 0.033	0.81, 0.66-1.01, 0.056	0.65, 0.57-0.75, < 0.001	1.52, 1.14-2.02, 0.004	0.86, 0.70-1.06, 0.163	0.83, 0.63-1.10, 0.199	0.89, 0.73-1.08, 0.237	1.52, 1.14-2.02, 0.004	0.90, 0.74-1.09, 0.277	0.88, 0.68-1.16, 0.367	0.98, 0.82-1.17, 0.831
Model fit (n = 2,045)	AIC = 3478; pseudo-R^2 = 0.16											
Views on Science												
Science literacy	0.81, 0.72-0.92, 0.001	0.95, 0.86-1.04, 0.249	0.94, 0.82-1.06, 0.306	0.92, 0.85-0.99, 0.035	0.92, 0.80-1.07, 0.281	1.11, 0.99-1.25, 0.081	1.11, 0.95-1.30, 0.198	1.16, 1.04-1.30, 0.010	0.91, 0.79-1.05, 0.183	1.04, 0.93-1.17, 0.468	1.05, 0.90-1.22, 0.579	1.04, 0.94-1.15, 0.421
Trust in scientists	0.93, 0.71-1.21, 0.586	0.69, 0.58-0.83, < 0.001	0.77, 0.60-0.98, 0.037	0.48, 0.42-0.55, < 0.001	0.94, 0.71-1.26, 0.689	0.90, 0.73-1.11, 0.308	0.92, 0.69-1.22, 0.551	0.69, 0.57-0.83, < 0.001	0.91, 0.69-1.21, 0.522	0.75, 0.62-0.92, 0.005	0.77, 0.59-1.01, 0.060	0.54, 0.45-0.64, < 0.001
Confidence in science	0.88, 0.65-1.21, 0.428	0.63, 0.51-0.77, < 0.001	0.49, 0.37-0.65, < 0.001	0.54, 0.46-0.64, < 0.001	0.85, 0.59-1.22, 0.371	0.68, 0.52-0.88, 0.004	0.58, 0.41-0.81, 0.002	0.68, 0.54-0.86, 0.001	0.84, 0.58-1.20, 0.329	0.67, 0.52-0.85, 0.001	0.57, 0.41-0.79, 0.001	0.66, 0.54-0.81, < 0.001
Model fit (n = 2,044)	AIC = 3608; pseudo-R^2 = 0.13											
Political Orientations												
Partisanship (Democrat to Republican)	0.90, 0.78-1.04, 0.148	1.06, 0.96-1.17, 0.276	1.02, 0.89-1.18, 0.74	1.09, 1.00-1.18, 0.047	0.97, 0.84-1.12, 0.703	1.01, 0.89-1.15, 0.843	1.04, 0.88-1.21, 0.667	1.06, 0.94-1.19, 0.339	0.98, 0.85-1.13, 0.75	1.02, 0.91-1.16, 0.71	1.05, 0.90-1.23, 0.539	1.10, 0.99-1.22, 0.092
Ideology (Liberal to Conservative)	1.00, 0.85-1.18, 0.973	0.96, 0.85-1.08, 0.486	1.24, 1.05-1.47, 0.01	1.14, 1.04-1.25, 0.005	1.07, 0.91-1.26, 0.409	0.91, 0.79-1.06, 0.218	1.22, 1.01-1.47, 0.037	1.15, 1.01-1.31, 0.038	1.07, 0.91-1.26, 0.389	0.92, 0.80-1.05, 0.217	1.22, 1.02-1.46, 0.033	1.15, 1.02-1.30, 0.022
Anti-establishment	1.14, 0.83-1.56, 0.426	1.50, 1.18-1.92, 0.001	1.40, 1.00-1.96, 0.050	2.33, 1.90-2.85, < 0.001	0.83, 0.56-1.24, 0.365	0.94, 0.68-1.30, 0.724	0.70, 0.45-1.10, 0.123	0.97, 0.71-1.34, 0.853	0.87, 0.60-1.25, 0.436	1.28, 0.95-1.71, 0.104	1.00, 0.67-1.50, 0.992	1.73, 1.33-2.26, < 0.001
Trump approval	1.01, 1.00-1.01, 0.168	1.00, 1.00-1.01, 0.565	1.00, 1.00-1.01, 0.495	1.01, 1.01-1.02, < 0.001	1.00, 0.99-1.01, 0.777	1.00, 0.99-1.01, 0.948	1.00, 0.99-1.01, 0.388	1.01, 1.00-1.01, 0.041	1.00, 0.99-1.01, 0.681	1.00, 1.00-1.01, 0.272	1.00, 0.99-1.01, 0.968	1.01, 1.01-1.02, < 0.001
Interest in politics	0.91, 0.72-1.15, 0.426	0.69, 0.60-0.81, < 0.001	0.58, 0.48-0.71, < 0.001	0.60, 0.53-0.68, < 0.001	1.19, 0.90-1.58, 0.227	1.04, 0.86-1.26, 0.671	0.81, 0.63-1.04, 0.091	0.94, 0.79-1.12, 0.497	1.18, 0.89-1.56, 0.241	1.01, 0.84-1.21, 0.94	0.77, 0.61-0.98, 0.031	0.89, 0.76-1.04, 0.146
Model fit (n = 2,017)	AIC = 3719; pseudo-R^2 = 0.09											
Psychological Predispositions												
Machiavellianism	1.18, 0.87-1.59, 0.287	0.83, 0.66-1.05, 0.119	1.00, 0.74-1.36, 0.986	0.91, 0.77-1.08, 0.285	1.19, 0.86-1.63, 0.288	0.79, 0.61-1.03, 0.084	0.91, 0.64-1.29, 0.580	0.84, 0.66-1.07, 0.164	1.20, 0.87-1.64, 0.263	0.84, 0.65-1.08, 0.165	0.99, 0.71-1.39, 0.974	0.93, 0.75-1.15, 0.505
Narcissism	1.1, 0.84-1.45, 0.482	0.74, 0.60-0.91, 0.004	0.88, 0.67-1.16, 0.353	0.69, 0.59-0.81, < 0.001	1.10, 0.80-1.51, 0.572	0.72, 0.56-0.93, 0.013	0.96, 0.68-1.37, 0.840	0.84, 0.65-1.07, 0.149	1.10, 0.80-1.51, 0.547	0.80, 0.63-1.02, 0.066	1.02, 0.73-1.43, 0.895	0.94, 0.76-1.16, 0.534
Psychopathy	1.13, 0.81-1.57, 0.490	1.05, 0.81-1.37, 0.704	0.96, 0.68-1.36, 0.813	1.02, 0.85-1.24, 0.820	1.03, 0.71-1.48, 0.883	0.78, 0.57-1.05, 0.104	0.69, 0.46-1.03, 0.066	0.67, 0.51-0.89, 0.005	1.11, 0.78-1.57, 0.574	0.98, 0.74-1.31, 0.910	0.94, 0.65-1.37, 0.755	0.93, 0.73-1.19, 0.554

Perceived victimhood	0.95, 0.71-1.27, 0.705	1.10, 0.89-1.36, 0.396	1.14, 0.85-1.52, 0.394	1.07, 0.92-1.26, 0.386	0.89, 0.64-1.24, 0.486	0.85, 0.66-1.11, 0.233	0.93, 0.66-1.32, 0.679	0.73, 0.57-0.93, 0.010	0.93, 0.67-1.28, 0.640	0.99, 0.78-1.27, 0.943	1.06, 0.76-1.48, 0.722	0.86, 0.70-1.07, 0.169
Perceived stress	1.47, 1.05-2.05, 0.025	1.50, 1.18-1.91, 0.001	1.30, 0.94-1.81, 0.114	1.53, 1.28-1.83, < 0.001	1.08, 0.73-1.59, 0.703	1.04, 0.78-1.39, 0.787	0.92, 0.62-1.36, 0.660	1.08, 0.83-1.42, 0.563	1.08, 0.73-1.60, 0.692	1.00, 0.76-1.32, 0.997	0.89, 0.61-1.31, 0.562	1.05, 0.82-1.34, 0.702
Empathy	1.2, 0.68-2.11, 0.535	1.25, 0.83-1.88, 0.289	0.90, 0.51-1.57, 0.711	1.14, 0.85-1.55, 0.382	1.18, 0.65-2.15, 0.590	1.22, 0.76-1.96, 0.416	0.86, 0.46-1.63, 0.646	1.09, 0.70-1.71, 0.699	1.16, 0.64-2.11, 0.629	1.14, 0.73-1.78, 0.574	0.80, 0.44-1.45, 0.459	1.03, 0.70-1.53, 0.867
Compassion	1.21, 0.97-1.51, 0.087	0.93, 0.80-1.08, 0.320	0.99, 0.81-1.22, 0.920	0.91, 0.82-1.01, 0.087	1.15, 0.91-1.45, 0.252	0.98, 0.83-1.17, 0.855	1.02, 0.81-1.30, 0.848	0.90, 0.77-1.07, 0.228	1.17, 0.92-1.48, 0.191	1.03, 0.87-1.22, 0.717	1.11, 0.88-1.40, 0.384	0.98, 0.85-1.14, 0.799
Conflict tactic (less – more severe)	1.03, 0.90-1.18, 0.657	1.10, 0.99-1.23, 0.077	1.05, 0.91-1.21, 0.513	1.10, 1.02-1.19, 0.016	0.96, 0.83-1.11, 0.557	1.00, 0.88-1.14, 0.969	0.95, 0.81-1.12, 0.558	0.99, 0.89-1.11, 0.905	0.98, 0.84-1.13, 0.731	1.04, 0.92-1.17, 0.556	0.99, 0.85-1.16, 0.910	1.05, 0.94-1.16, 0.399
Perceived physical strength	0.98, 0.89-1.07, 0.619	0.98, 0.92-1.05, 0.515	1.04, 0.95-1.14, 0.403	1.06, 1.01-1.11, 0.014	0.96, 0.87-1.06, 0.403	0.99, 0.92-1.07, 0.864	1.06, 0.96-1.18, 0.260	1.08, 1.01-1.16, 0.029	0.96, 0.87-1.06, 0.424	0.99, 0.92-1.06, 0.708	1.04, 0.95-1.15, 0.400	1.06, 0.99-1.13, 0.096
Model fit (n = 2,041)	AIC = 4039; pseudo-R^2 = 0.03											
Model fit (n = 2,010)					AIC = 3032; pseudo-R^2 = 0.33					AIC = 3270; pseudo-R^2 = 0.27		

Note: * = $P < .05$; ** = $P < .01$; *** = $P < .001$; AIC = Akaike information criterion